



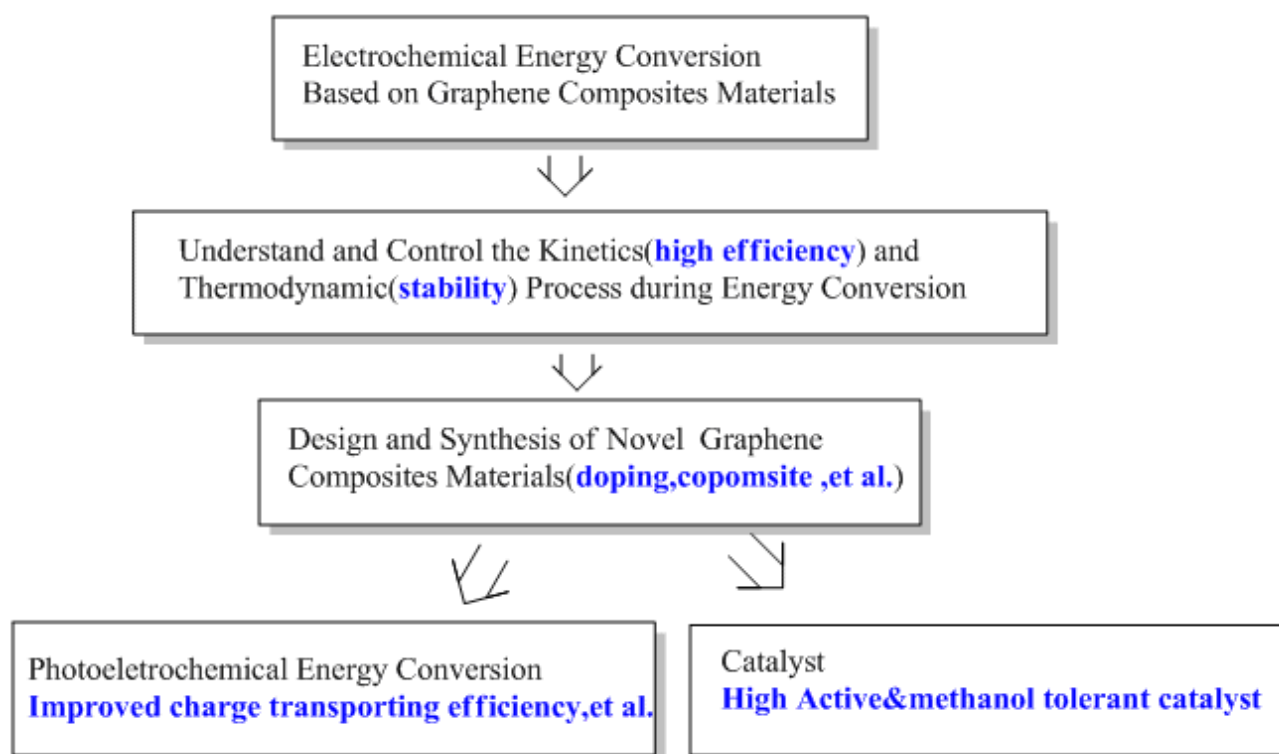
Electrochemical energy conversion based on graphene composite materials and their application in green energy-related fields

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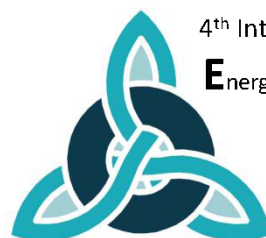
Accepted for publication on 8th April 2015

Electrochemical energy conversion based on graphene composite materials has great significance in exploring new sustainable energy source. From the viewpoint of both efficiency (kinetics) and stability (thermodynamics), which are the two key factors in energy conversion, a series of novel graphene-based nanomaterials have been designed and synthesized. This review gives a brief overview of the preparation and assembly of graphene-based nanomaterials and their applications in green energy-related areas including transparent conductive film electrodes, and catalysis, etc.



Scheme, strategy of graphene-based nanomaterials electrochemical energy conversion

Keywords: Energy conversion; electrochemistry; graphene ;catalysis



4th International Symposium on
Energy **C**hallenges & **M**echanics
- working on small scales

11-13 August 2015
Aberdeen, Scotland, UK

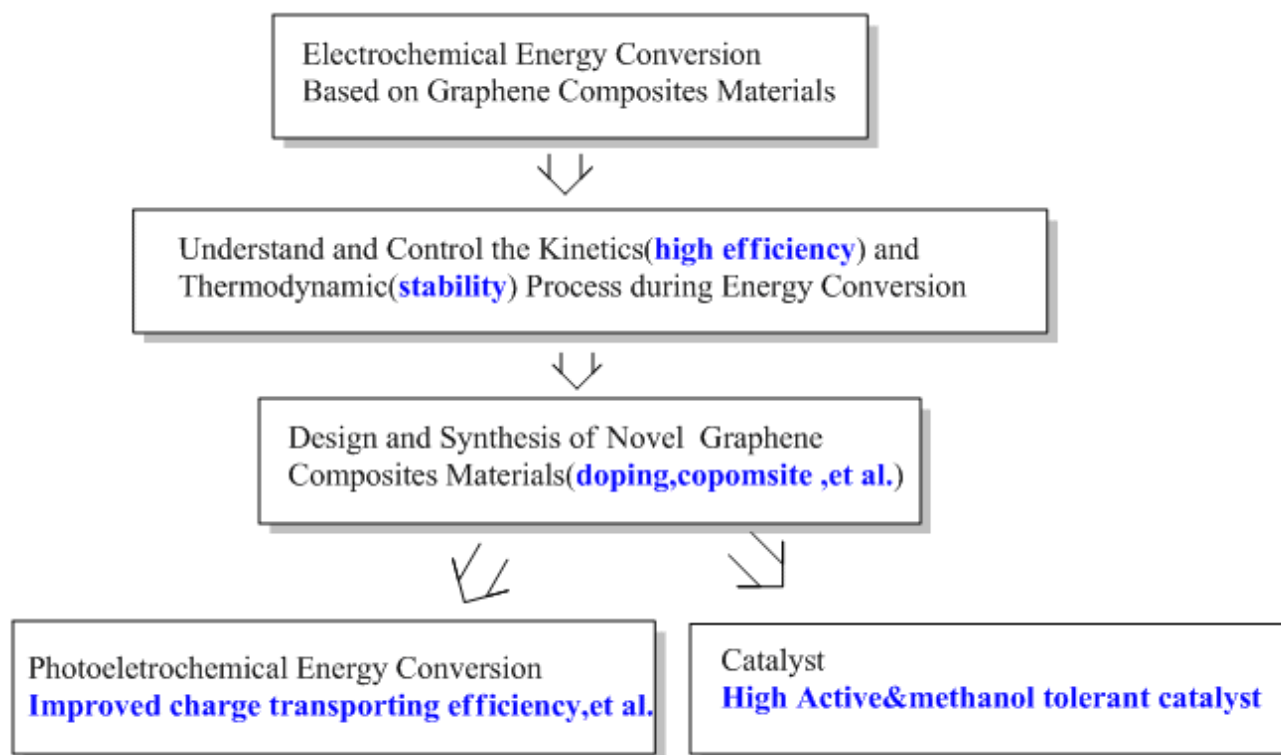
基于石墨烯纳米复合材料的电化学能量转化及其在绿色能源领域的应用

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2015 年 4 月 8 日接受发表

基于石墨烯复合材料的电化学能量转化研究对于开发新型可再生能源具有十分重要的意义。我们从能量转化过程中的两个重要因素——效率（动力学）及稳定性（热力学）的角度出发，设计和合成了一系列新型石墨烯纳米复合材料，并研究了在光电化学池，直接甲醇燃料电池催化等领域的应用，展现出较好的性能和应用前景。



图，基于石墨烯复合材料的电化学能量转换策略

关键词：石墨烯；能量转化；电化学；催化